RAJYA SABHA

Monday, the 26th February, 2001/7 *Phalguna*, 1922 *(Saka)*

The House met at eleven of the clock,

MR. CHAIRMAN in the Chair.

ORAL ANSWERS TO QUESTIONS

Safety Measure in Housing Projects

*61. SHRI R. MARGABANDU: Will the Minister of URBAN DEVELOPMENT AND POVERTY ALLEVIATION be pleased to state:

(a) whether it is a fact that the Central Government Employees Welfare Housing Organisation (CGEWHO) has undertaken several housing projects all over the country;

(b) if so, the details thereof;

(c) whether adequate safety measures are adopted by the organisation to prevent any damage or loss to the property due to natural calamities;

(d) if so, the details thereof, and if not, the reasons therefor;

(e) whether Government have issued any guidelines/instructions to the organisation to implement the necessary safety standards in the wake of the recent earthquake in Gujarat; and

(f) if so, the details thereof?

THE MINISTER OF URBAN DEVELOPMENT AND POVERTY ALLEVIATION (SHRI JAGMOHAN): (a) to (f) A Statement is laid on the Table of the Sabha.

Statement

(a) and (b) Yes, Sir. CGEWHO has undertaken 15 projects till date. Details are given in Statement-I.

(c) and (d) Yes, Sir. All the projects have been designed and built in accordance with the relevant codal provisions as formulated by Bureau of Indian Standard (BIS) which cater to the effects of earthquake and wind forces. The details are indicated in Statement-II.

(e) and (f) In view of reply to (c) and (d) above, no separate instructions have been issued in this regard. However, the CGEWHO has since confirmed that they are following the provisions of BIS codes in this regard strictly.

Statement-I

Projects undertaken By CGEWHO

S. No.	Location	No. ofDUs Built	Status
	Chennai	524	Completed
	Nerul (Navi Mumbai)	384	-do-
	Kolkata(Ph-l)	576	-do-
	Noida(Ph-I)	692	-do-
	Noida(Ph-II)	508	-do-
	Panchkula	98	-do-
	Kharghar(Navi Mumbai)	1230	-do-
	Gurgaon(Ph-l)	1088	-do-
	Chandigarh	305	-do-
	Gurgaon(Ph-II)	852	Under Construction
	Noida(Ph-III)	980	-do-
	Bangalore	603	-do-
	Hyderabad (Ph-I)	360	-do-
	Kochi(Ph-l)	43	-do-
	Pune	361	-do-

Statement-II

Details of Earthquake Resistant Design

EARTHQUAKE FORCES: As per IS Code 1893, whole country is divided into 5 zones dipending on the intensity of earthquake force expected during the occurrence. For example. Delhi falls inZone-IV, Kolkata& Mumbai in Zone-Ill, Chennai in Zone-II and Bangalore in Zone-I whereas Ahmedabad falls in Zone-Ill. All structures are required to be designed to withstand earthquake forces relevant to the particular zone.

WIND FORCES: As in case of earthquake, whole country is divided into various wind pressure zones depending on the wind intensity expected during the high winds/cyclone. For example, maximum wind pressure for Delhi is 60 kg

sqmt. whereas for eastern coast it is 200 kg/sqmt. and while for Western coast from Gujarat to Mumbai the same is 150 kg/sqmt. and from Mumbai to Kanyakumari 100 kg./sqmt. All structures are required to be designed to withstand the wind forces relevant the particular zone.

DESIGN OF BUILDINGS: Design of buildings is carried out for severe affect for combination of various loads such as Live load, Dead load. Earthquake load and Wind load etc. BIS also lays down various detailed measures to be adopted in design of structures. Specific measures towards design and detailing of structures to be adopted for earthquake resistant buildings have been formulated by BIS in following codal provisions which are strictly followed by the agencies, such as III. Regional Engineering Colleges or any other agency, engaged by CGEWHO for carrying out proof check of design of buildings:

S.No.	Code	Subject
a.	IS-1893	Criteria for Earthquake Resistant Design of structures.
b.	IS-4326	Earthquake Resistant Design & Construction of buildings.
c.	IS-13920	Ductile detailing of reinforced concrete structures subjected to seismic forces.

SHRI JAGMOHAN: Sir, if you permit me, I would suggest that Question Nos. 61 and 66 could be taken together because the subject is, more or less the same.

MR. CHAIRMAN: The Member has to say so. *(Interruptions)* Shri Narendra Mohan is not here.

SHRI R. MARGABANDU: Sir, collapse of buildings due to substandard construction and inadequate safety measure experienced in the recent earth-quake suggests that structural engineers, contractors and officials who certify the fitness of buildings should be made accountable. I want to know whether the Government has got any proposal to amend the Structural Engineers Act and the Indian Architects Act. If so, what are the proposed amendments and their possible effects?

SHRI JAGMOHAN: Sir, there is already an Indian Architects Act. On the lines of this Act, we are trying to frame an Indian Engineers Act which will cover all types of engineers, including structural engineers. Similar Acts are being administered by the Ministry of Human Resource Development. We have

suggested to them that there should be an enactment of this nature so that the professional conduct of the engineers can be regulated and controlled. If any structural engineer does not do his job properly, or, gives a false certificate, or, does not follow the building bye-laws and the codes prescribed in this regard, then he can be hauled up for professional misconduct and his registration or his licence could be cancelled. That is the provision.

SHRI R. MARGABANDU: I want to know whether there is a proposal to amend these two Acts.

SHRI JAGMOHAN: Sir, as I said, the Indian Architects Act already exists. But in regard to structural engineers, there is no Act. Now, it is proposed to be framed.

SHRI R. MARGABANDU: Sir, I want to know whether the Government is aware that with the amount allotted for hundred per cent work, they actually carry out only 50 per cent work, after making deductions by way of percentage commission to the officials who issue fitness certificate for claim, to different agencies and contractors' dividend. It results in substandard and unsafe construction which collapse at any time causing loss of life and damage to property even when there is no earthquake.

The second part of my supplementary is this. A tender is accepted of the lowest bid even when it is less than 10 to 15 per cent of the estimated tender price. Will it be allowed in future? If so, how will the standard of building be ensured?

SHRI JAGMOHAN: Sir, even according to the normal rules, the norms of structural safety are not compromised while accepting or rejecting the tenders. The tender is to be within the framework of the bye-laws, it has to be within the framework of the law. So, there can't be any compromise with regard to these building bye-laws. Therefore, that apprehension is not well-based.

So far as somebody issuing a false certificate or using less material is concerned, that is, of course, an offence; it is corruption. You have seen action taken in a number of cases. Even in Delhi, some cases have been registered and action under criminal laws is taken wherever it is detected.

SHRI S.B. CHAVAN: Mr. Chairman, Sir, I would like to have a reply from the hon. Minister on two points. One is the standards which have been followed so far. It depends on the code of 1893. For almost a hundred years, in zone 3, there was, practically, no serious earthquake taking place. But after the Koyna

earthquake, the Latur earthquake and the recent one in Gujarat, the Bhuj earthquake, the matters have to be reconsidered. In the case of buildings and irrigation projects—which are there in those areas, whether they have been constructed or under construction-does the Government think it necessary to revise the instructions to all the officers who are incharge of construction of these buildings or irrigation projects? They need to be revised so as to take the earthquake factor into account, especially in the case of multi-storeyed buildings as also big irrigation projects.

SHRI JAGMOHAN: Sir, the position is like this. There is a Bureau of Indian Standard based on this. The National Building Code there is updated from time to time. The present code is quite updated. We, in the Ministry, have published a vulnerability atlas, which shows the vulnerability of all the areas; whether they are vulnerable to earthquakes, cyclones or floods. The degree or vulnerability has also been defined. For example, in the case of earthquakes, we have got five zones. Zone-5 is most prone to earthquake, like Bhuj. Then there are areas which are not so much prone, but, still, the degree is only slightly less. There are zene-4 areas like Delhi. Delhi falls in that category. Zone 3 is still less prone. Ahmedabed falls in zone-3. Zone-2 and zone-1 are not so much vulnerable and the danger that can be caused can't be so much. So, the National Building Code of the Bureau of Indian Standards prescribe the safety norms, the design norms, the structural norms and the soil testing norms for each category of the vulnerable zone. That is already in place.

Unfortunately, they were not there in the building codes of some of the State Governments. We had written to them about a year-and-a-half ago saying that such and such is your vulnerability and such an such are the building codes to be followed. We requested them to kindly incorporate those codes in their bye-laws so that they could be statutorily enforced. Unfortunately, the State Governments did not do them. But, after the recent earthquake, we have again written to them, and I have personally written to the Chief Ministers twice. In the case of Delhi, we have taken initiatives and issued notifications also inviting public reaction, because that is the requirement of the law. So, these measure will ensure that.

Now, the National Building code of the Bureau of Indian Standards must be followed by all concerned. So far as the Government departments are concerned, they are following it on their own. For example, the Central Public Works Department is following the norms of the Bureau of Indian Standards. The DDA is following thai. All the Government departments are following.

I would like to inform this House that about 500 CPWD buildings were in that zone, which were affected by the earthquake in Gujarat, whether Bhuj or Ahmedabad. Only three buildings have been damaged to the extent of collapse, out of the more than 500 buildings. This is because we are following these codes. Of course, in zone-3, because people were cutting comers and creating all types of problems they were not followed. In the case of flyovers and irrigation projects, these standards are required to be followed and they are given in the codes. We are again asking them to follow those standards.

I have invited all the Ministers concerned for a meeting on the 14th, March. I am again going to request them to ensure that these standards prescribed by the Bureau are incorported in the bye-laws and they are followed scrupulously. Another point which I would like to inform this House arising out of this is that this will apply to the buildings which have yet to come up. There are building which have already been constructed or irrigations projects which have already been completed. So, there also we have published technical guidelines on how to retrofit those buildings how to improve the strength of those buildings and how to ensure that they do not get damaged. Even with regard to buildings which have been damaged, we have defined the degree of the damage. Something which has to be rebuilt is G-5; then there is G-4 which can be reconstructed with slight changes and then G-3 which can be done with a little more effort. Then there are G-l with superficial cracks which can be easily repaired. We have defined all these things so that no unnessary expenditure takes place in demolishing building which can be retrofitted, and they should be retrofitted. So, our code, what 1 call the techno-legal regime, which we are formulating will take care of these eventualities. This techno-legal regime is being promoted by us. We are requesting the State Governments that all building agencies should adopt them and also incorporate them in their bye-laws so that anyone deviating from these laws is made answerable to the public authorities.

श्री सतीश प्रधानः सभापति महोदय, मैं यह जानना चाहता हूं कि म्युनिसिपल कारपोरेशन, म्युनिसिपल काउंसिल वगैराह के लिए उनकी खुद की स्टेट गवर्नमेंट की गाइडलाइन्स के ऊपर बिल्डिंग के लिए रुल्स बनाए गये हैं, बाइलाज बनाए गये हैं। इसमें इसका कोई प्रावधान नहीं है जिससे वह अर्थक्वेक विदस्टेंड कर सकें। इसके लिये किस चीज की आवश्यकता है, इसका रुल में, बाइलाज में कोई प्रावधान नहीं है। हमारे यहां रिसर्च हुई है और रिसर्च में इसके लिये किस किस्म का कितना स्टील यूज करना है और कितना सीमेंट यूज करना है, इसके लिए पूरी व्यवस्था बताई गई है। फिर लोग इसका इस्तेमाल क्यो नहीं करते हैं? गवर्नमेंट का या म्युनिसिपैलिटी का जो खुद का काम

होता है, जो स्कूल बिल्डिंग्स या ब्रिज बनते हैं उसके लिये भी जिस तहर की व्यवस्था है, ढंग से स्कूल या ब्रिज नहीं बनते हैं। इसलिये मैं यह जानना चाहता कि सरकार इस विषय में जो गाइडलाइन्स हैं और जो इस विषय के रुल हैं उनमें संशोधन करके क्या कुछ बलाव लाने की कोशिश करेगी ?

SHRI JAGMOHAN: Sir, when you design a building, a safe building, which can withstand an earthquake, depending upon the zone in which it is situated, then the design factor is taken into account, the structural engineering factor is taking into account, soil testing is done and all those issues which are relevant to the safety of the building are considered *in tola,* and they are already in the National Building codes or the Bureau of Indian Standards, as we call them. They are already there. But they are not being followed, as you say. Sometimes there is no statutory provision in the bye-laws of the municipal authorities concerned which we have asked them now to incorporate. If there is a provision and no one follows it, this is really a deviation from the building bye-laws. It should be for the public authorities to ensure that their bye-laws are enforced. Now. in Delhi what is happening in the last one year or the drive that has been launched is kindly follow the existing bye-laws. They are not following even the existing bye-laws. The bye-laws which would now become applicable consequent to this experience of this earthquake would be still more rigid and more stringent.

So, the issue is, if we follow the bye-laws strictly, I am quite, sure, a large number of buildings would be saved and the number of casualties, God forbid if any natural calamity takes place, can be reduced. Unfortunately, in our country, there is no culture of prevention. There is no culture of mitigation; and even in the case of DDA flats, people have made additions, and when I took action, I think, this august House also took objection to it.

SHRI SATISH PRADHAN: The municipal council or the municipal authorities are not implementing the National Building Code. So, what the Government is going to do about it?

SHRI JAGMOHAN: Sir, it is a State subject. The State Government concerned can take action against the local body. Now, here, we are taking action, but it is Parliament which is asking me not to take action.

SHRI SATISH PRADHAN: You cannot leave people just like that. Thousands and lakhs of people are in a soup. How can we keep mum? You have to implement laws through some way or the other. You have to find some way out.

SHRI JAGMOHAN: If they are not implementing, the authority which is required to secure the implementation is to be blamed and the State Legislature concerned can take them to task. The Central Government has no authority. For example, if the Municipal Corporation of Mumbai is not following its bye-laws, I have no authority to discipline it. But, in the new techno-legal regime, which I have formulated, I have introduced a clause that the HUDCO loan and other facilities will not be made available to those who do not follow their bye-laws or do not incorporate the new safety norms which I had talked about.

DR. RAJA RAMANNA: Mr. Chairman Sir, the matter concerning implementation has another aspect. In this country, the labour, which goes into construction activities of very, very big and large buildings, involving crores of rupees, is at the lowest level. They are treated almost like animals. They are not being provided any toilets. They are not given any facilities to live while big constructions are going on; so, you cannot except them not to be tempted to make a little money here and there, by moving cement, etc., out. I am not blaming the poor man. The poor man is highly tempted. Crores of rupees are spent there, but the kind of position that he is given at the sites is just awful. Anyway, I speak of South India because I see many buildings coming up there. So, unless you improve the position of labour and see that there is a law which says that minimum conditions of existence like electric lights, etc., must be provided—1 see the whole family sleeping in the dark, during nights—it is difficult to think about their condition. A lot of money is being spent by all sorts of people who come to see the place and inspect the place. If a worker wants to make some money, he can quietly take some cement away for his own use and can make more money. That is the only way he can improve his position. So, I think, this is another aspect of implementation which must be given top priority since the labour is treated very badly.

SHRI JAGMOHAN: I entirely agree with the proposition put forth by the hon. Member. Sir, the issue is this. I once again invite the attention of all the State Governments and other building authorities to this, that they should treat the labour humanely. There are labour laws which take care of this, but they are not being followed. 1 quite agree. I will bring it to the notice of the State Governments anc' the local bodies concerned. So far as the Central PWD is concerned, there is already a code which prescribes certain amenities to be provided to the labour at the sites concerned. Sometimes, they are not followed. But. onlv recently. I had issued strict instructions that they should do so.

श्री अनन्तराय देवशंकर दवे : सभापति महोदय, माननीय मंत्री जी ने अभी बताया कि अहमदाबाद में गवर्नमेंट की पांच सौ बिल्डिंग्स में से करीब तीन में ही दरार पड़ी बाकी सेफ है ...(**व्यवधान**)...

श्री जगमोहन : सी.पी. डब्ल्यू.डी. की।

श्री अनन्तराय देवशंकर दवे : हां, सी.पी.डब्ल्यू. डी की । कच्छ की गवर्नमेंट की और सी.पी.डब्ल्यू की एक भी बिल्डिंग सलामत नहीं है सब गिर गई हैं, पार्टिकुलरली कच्छ में। अहमदाबाद को अभी जोन तीन में बताया गया है जब कि मेरी जानकारी के अनुसार कच्छ, सौराष्ट्र और नार्थ गुजरात जोन पांच में आते हैं। मैं माननीय मंत्री जी से जानना चाहता हूं कि जब आप जोन तय करते हैं तो क्या सिटी टू सिटी तय करते हैं ? और जोन चार और पांच में देश की कितनी प्रतिशत जमीन आ रही है?

SHRI JAGMOHAN: Sir. we have a map which clearly delineates the area; for example most of the Kutch area comes under zone 5, some of the area of Saurashtra comes under zone 4, Ahmedabad comes under zone 3. So, it is all defind there, area-wise and not State-wise. Sometimes the areas can over lap, and Ahmedabad can come under another zone. Therefore, the safety norms for all these areas are separate. Those who have not been following these safety norms, their buildings have collapsed. Those who have been following, their buildings have suffered only some damages. It has not resulted in any deaths, at least. It depends on the intensity of the earthquake. If the intensity is far beyond a particular limit, then, of course, no safety precautions can really help. But it can mitigate the effects. In those areas of Kutch where buildings have collapsed, the intensity of earthquake was very, very strong because it was very near the epicentre.

श्री अनन्तराय देवशंकर दवे : सर, देश की जमीन का कितना प्रतिशत जोन चार और पांच में है?

SHRI JAGMOHAN: Fifty-four per cent of the country's total areas vulnerable to earthquake of different categories. Eight to nine per cent is prone to cyclone hazards. Five per cent is prone to floods. So, you have got C, D, E and F effects in India. "C stands for cyclone, "D' stands for drought, "E* stands for earthquake, and "F* stands for floods. So, quite a sizable area of this country is vulnerable to one natural calamity or the other. Unfortunately, 84-85 per cent of the buildings are non-architectural buildings. They have been built by the people themselves. So, this is the fact. But so far as the exact area is concerned, 1 will send you the information.

DR. M.N. DAS: Will the hon. Minister be pleased to agree with me that the Gujarat tragedy is a severe lesson for the rest of India—to all the metropolitan cities; State capitals; industrial sites, which are rapidly expanding in every direction, resulting in concrete jungles? Sir, science and technology have no frontiers. Would you like to consult some Japanese Experts because Japan happens to be one of the most earthquake-prone zones on the surface of the earth? In olden days, the Japanese believed that under the earth sleeps a monster-like creature, and, in its deep slumber, it turns from one side to another causing tremors off and on. Now they do not believe in that. But, in olden days, they used to construct wooden structures in such a way that even a three storeyed or five-storeyed building would remain permanently because the logs of wood would be placed in such a way that the tremor would not effect the building. Today, Japanese have built sky-scrappers, multi-storeyed structures. By what technique? By what method? Would you consult the Japanese experts as to how they lay the foundations by which even the sky- scrappers stand safe, without the risk of collapsing? Sir, one year and two months back, Orissa was hit by a supper cyclone, and the Government was pleased to sanction money for construction of cyclone shelters. But have you tested how the cyclone shelters have operated? How have they provided shelter to the people? Only two days back, Sir, Orissa was hit by a severe tornado, destroying a large part of Bhadrak district. Are there any cyclone shelters in that area which have taken the impact of the storm and stood as before when constructed?

SHRI JAGMOHAN: Sir, so far as the expert advice to be sought from the Japanese or any other Government is concerned, I would like to inform this august House that we have sufficient expertise on the subject. For example, in the recent earthquake in Turkey, the World Bank has given us the contract to supervise the earth-resistant structures and in an international competition, the NBCC won the contract. Therefore, there is no dearth expertise on this subject. The NBCC is one of the top most agencies in this regard. Technical experts from various engineering colleages, engineering institutes and architectural institutes have prepared this atlas. So for as the point of learning lessons from the past experience is concerned, all earthquakes have been recorded and it is on the basis of those lessons that these areas have been demarcated. There is a scientific documentation of all the areas. The Latur earthquake and the Uttarkashi earthquake have been recorded up-to-date. Even the 1958 earthquake which had occurred in Delhi has been taken into account. So, all this is based on scientific documentation and studies made by various experts. The structural

designs have also been shown in these guidelines which I have referred to. So far as the question of seeking advice from the Japanese is concerned, they are undoubtedly the top experts in this area in the world. India is also a member of the Disaster Management United Nations regime. We had also attended a conference on "safer habitat" in Yokohama. We are fully aware of all the techniques that are being used and are also aware of all the architectural and technological devices that are available to make earthquake-resistant buildings. We would always be happy to participate in any international regime, and we are doing so; learn from them and make our techniques more perfect.

SHRI DIPANKAR MUKHERJEE: Mr. Chairman, Sir, I have also written a leter to the hon. Minister on this issue. As per the given details, these earthquake zones were defined as per the IS code 1893.1 understand, the Bureau of Indian Standards is working on re-defining these zones, because Latur was not there in uV earthquake-prone zones. I would like to know whether the Bureau of Indian Standards has already re-defined these seismic zones, in the wake of the recent earthquake in Gujarat, if not, will you see to it that it is expedited? Then, more stress should be laid on structural designs, than on architecture. Today, the whole trend is set for architecture, but, basically, it is the structural design norms which need to be examined, keeping in view the change in seismic zones. It should be given top priority in the country. Would you kindly see that the re-defining of seismic zones is done at the earliest and the structural designing is given more importance than architecture.

SHRI JAG MOHAN: There are 6 codes in the definition which I am talking about. I will communicate them to you. They are quite up-to-date and have taken care of all the elements which go into construction of buildings, like structural designs, soil conditions, engineering techniques, building material to be used, etc. There are 6 codes and they are all up-to-date.

SHRI DIPANKER MUKHERJEE: I would like to know whether these zones have been redefined.

SHRI JAGMOHAN: Areas have been demarcated on the basis of latest information and the latest data which is available in this atlas, which we have published. The technical guidelines were laid down in the year 2000.

SHRI KULDIP NAYYAR: Sir. keeping in view the devastation caused by the recent earthquake in Gujarat, I would like to know whether there is any plan to lessen the height of the Narmada dam or to revise the Narmada Valley Project as such. My second question is, whether there is any plan for the Tehri dam,

whici also falls in the earthquake zone.

SHRI JAG MOHAN: Sir, this aspect is taken care of by the other Ministry and not by the Ministry of Urban Development and Poverty Alleviation. But i am quite sure that while working out the designs for these dams, the earthquake element has been taken into consideration. If you want more details, we will intimate the concerned Ministry about this.

SHRI C. RAM ACHANDRAIAH: Mr. Chairman, Sir, the question which I proposed to put has already been put by Shri Dipankar Mukherjee. However, I want to seek the opinion of the hon. Minister on one point. As per the !S code 1893, the whole country is divided into five zones, depending on the intensity of the earthquake. Sir, as per this classification, the Deccan Plateau is least susceptible to earthquakes. But the recent earthquakes. In Latur and other areas proved the data, which had been earlier provided in this regard, wrong. So, I would like to know whether the Minister can conduct a new survey or study so that these areas can be re-classified, and, accordingly, the precautionary measures that need to be taken in this regard can be communicated to the concerned State Governments.

SHRI JAGMOHAN: Sir, the vulnerability zone depends on the fault-line underneath the earth. It does not depend on a particular area. For example, in the Bhuj area, there is a fault-line that created the problem, but the neighbouring areas may not be in the same zone. So, it is all based on the geological surveys and technical data. In this earthquake also, we have collected the data, and we are making a new documentation. It is part of our proposal.

Cases pending in courts

*62. SHRI RAMACHANDRA KHUNTIA: Will the Minister of LAW, JUSTICE AND COMPANY AFFAIRS be pleased to state:

(a) whether it is a fact that cases are pending in courts for long time because there is delay in appointment of Judges in different courts;

(b) if so, the total number of cases pending in Supreme Court, High Courts an J Lower Courts, Labour Courts and Industrial Tribunals as on date; and

(c) whether Government would frame action plan for timely posting of all Judges and to dispose oil cases within a fixed time frame?

THE MINISTER OF LAW, JUSTICE AND COMPANY AFFAIRS (SHRI A RUN JAITLEY): (a) to (c) A Statement is (aid on the Table of the House.